Notice No.2

for the

Code for Offshore Personnel Transfer Systems, July 2021

The status of this Rule set is amended as shown and is now to be read in conjunction with this and prior Notices. Any corrigenda included in the Notice are effective immediately.

Please note for the corrigenda items paragraphs, Tables and Figures are not shown in their entirety.

Issue date: June 2022

Amendments to	Effective date	IACS/IMO implementation (if applicable)
Chapter 1, Sections 1, 3, 8, 12 & 13	1 July 2022	N/A
Chapter 2, Section 3	1 July 2022	N/A

Chapter 1
~~Code for~~ Offshore Personnel Transfer Systems

■ *Section 1*
General

1.10 Terms and definitions

1.10.13 **Free floating mode** is defined as the OPTS being in a state where the motions of the mothership and/or target unit are not actively compensated. Reference is made to *Ch 1, 1.10 Terms and definitions 1.10.1*.

Existing paragraphs 1.10.13 to 1.10.55 have been renumbered 1.10.14 to 1.10 56.

■ *Section 3*
Loads and factors

3.4 Uniformly Distributed Load

3.4.5 This above defined Uniformly Distributed Load, UDL_P shall be further increased by the mothership accelerations and loads from any compensated or uncompensated (residual) motions of the OPTS. The inclinations of the mothership shall also be taken into consideration.

3.5 Loads on floorings

3.5.1 Floorings are to be designed for the following loads and do not need to be applied simultaneously:
(a) Case A: Distributed load of 360 ~~410~~ kg/m²; and
(b) Case B: Local load of 310 kg on any individual member.

3.5.2 For both cases, the mothership accelerations and loads from ~~the~~ any compensated or uncompensated (residual) motions of the OPTS shall be applied. These loads are to be further enhanced by the applicable risk coefficient as defined in *Ch 1, 3.8 Risk coefficient*. The allowable stresses shall be calculated as per *Ch 1, 5 Allowable stresses and safety factors* using the stress factor as defined in *Table 1.4.2 Stress factors for the defined load cases* for Case 1.

3.6 Loads on platforms and walkways

3.6.1 The distributed load on platforms and walkways shall be a minimum of 360 ~~410~~ kg/m² and a concentrated load of 310 kg at the most unfavourable location on the platform or walkway. These loads do not need to be applied simultaneously. ~~This distributed load~~ These loads shall be increased by the mothership accelerations and loads from ~~the~~ any compensated or uncompensated (residual) motions of the OPTS. The inclinations of the mothership shall also be taken into consideration. These loads are to be further enhanced by the applicable risk coefficient as defined in *Ch 1, 3.8 Risk coefficient*.

3.7 Loads on handrails

3.7.1 Handrails and their supporting structure (e.g. ~~guard rails~~ guard rails and stanchions) shall be designed to a minimum distributed load of ~~51 kg/m²~~ 51 kg/m without permanent deformation. This distributed load may be increased by the mothership accelerations and loads from motions of the OPTS. The inclinations of the mothership shall also be taken into consideration. This load is to be further enhanced by the applicable risk coefficient as defined in *Ch 1, 3.8 Risk coefficient*.

■ *Section 8*
Functional requirements

8.2 Location

8.2.2 The OPTS is not to be placed where cargo or other suspended loads may pass overhead of any configuration of the OPTS. ~~If cargo operations close to the OPTS cannot be avoided, it shall be ensured that personnel transfer operations are not conducted, and personnel are not on or near the OPTS at those times of operation.~~ However, if this cannot be avoided by design, it shall be ensured that personnel transfer operations are not conducted, and personnel are not on or near the OPTS at those times of operation.

8.6 Platforms and walkways

8.6.8 Platforms and walkways shall be enclosed by guard rails. The guard rails shall be equipped with means to avoid dropped objects from falling through the guard rails and their supporting structure. In case access through the guard rails is required a gate shall be fitted. Reference is made to *Ch 1, 8.9 Guard rails, handrails and stanchions*.

8.9 Guard rails, handrails and stanchions

8.9.4 The minimum height of ~~handrails~~ the handrail or top guard rail above flooring level for gangways, walkways and waiting area shall be 1100 mm. There shall be at least two intermediate guard rails (or similarly effective arrangements) provided between the top guard rail ~~upper handrail~~ and the flooring, each being not more than 380 mm apart. The distance ~~between~~ from the top of the toe plate to the lowest guard rail shall not be more than 230 mm. ~~In case of a handrail height beyond 1100 mm additional intermediate rails shall be provided at spacings not exceeding 380 mm.~~ The height of the ~~handrail~~ top guard rail may need to be increased as a result of the risk assessment (e.g. in case of significant lateral or vertical accelerations posing a hazard to personnel). In case of a top guard rail height above 1100 mm, additional intermediate guard rails shall be provided with a maximum spacing of 380 mm. In case of a top guard rail height above 1100 mm, a handrail is to be provided at a height between 900 mm and 1100 mm. Rails which are used as a handrail are to be uninterrupted and easy to grasp.

8.11 Gangway

8.11.3 Interface areas need to be designed in such a way to ensure that there will be no hazards for personnel due to relatively moving parts (e.g. crushing or shearing of body extremities such as feet and hands, etc.). Interface areas ~~are listed as follows~~ include, but are not limited to:
(a) Between the OPTS base frame and the motion compensation and/or pedestal;
(b) within the motion compensation system;
(c)~~(a)~~ between the gangway and the OPTS base frame;
(d)~~(b)~~ between the main and telescopic part of the gangway (if any);
(e)~~(c)~~ between the gangway tip and the target structure; or
(f)~~(d)~~ between other similar interface areas of relatively moving parts.
Any deflections causing gaps between interface areas need to be taken into consideration in the design. Each interface area shall be marked with a warning pattern in black and reflecting yellow.

8.13 Operator control station

8.13.6 The persons at the control station e.g. Operator, shall be protected from dropped objects. Further protection shall be provided at the control station to prevent persons from falling from height. ~~The control station shall provide adequate protection against dropped objects and shall also provide protection from falling off the OPTS by means of adequate guards, guard rails and handrails.~~

8.13.8 ~~A secondary~~Secondary (emergency) means of control ~~panel~~ shall be provided ~~for~~ in cases of ~~a~~ failure of the main control ~~panel~~. The activation of the secondary means of control ~~panel~~ and the ~~takeover~~ changeover of control over the OPTS shall be possible without undue delay. In case of active systems (ST-A or ST-H), the secondary means of control shall take account of the requirements of *Ch 1, 9.4 Active systems (ST-A or ST-H) 9.4.4*. Reference is further made to *Pt 6, Ch 1, 2.2 Control stations for machinery 2.2.6* and *Pt 6, Ch 1, 2.2 Control stations for machinery 2.2.7* of the *Rules and Regulations for the Classification of Ships*.

8.13.9 In case of hydraulically driven OPTS, the control station shall be equipped with a manual hydraulic control. The manual hydraulic control ~~will~~ may be regarded as a secondary (emergency) ~~emergency~~ means of control ~~panel~~.

8.23 Dropped objects originating from the OPTS

8.23.1 This sub-Section refers to dropped object hazards originating from the OPTS.

Existing paragraphs 8.23.1 to 8.23.3 have been renumbered 8.23.2 to 8.23.4.

~~8.23.4~~ 8.23.5 Reference is made to ANSI/ISEA 121 *American National Standard for Dropped Object Prevention Solutions* for ~~guidance~~ general guidance concerning dropped objects.

8.24 Dropped and moving objects posing a hazard to the OPTS

8.24.1 This sub-Section refers to dropped and moving objects posing a hazard to the transferring personnel, the Operator and any part of the OPTS (including the control panel).

8.24.2 With respect to moving objects, the following shall be considered as a minimum:
(a) objects hoisted and slewed by cranes that may come into contact with the OPTS;
(b) fixed objects that may come into contact with the moving OPTS.

8.24.3 Risks due to dropped and moving objects shall be mitigated in the following order of measures:
(a) By means of design: e.g. structural protection, position of the OPTS on board.

(b) By means of individual risk assessment: e.g. instructions for use shall require that the hazards due to dropped and moving objects are considered prior use.

8.24.4 Reference is made to ANSI/ISEA 121 *American National Standard for Dropped Object Prevention Solutions* for general guidance concerning dropped objects.

Existing sub-Sections 8.24 to 8.26 have been renumbered 8.25 to 8.27.

~~8.26~~8.27 Winterisation

~~8.26.1~~ 8.27.1 Systems which are specially designed to operate in arctic conditions shall comply with the requirements of this sub-Section. The requirements of this sub-Section are related to winterisation level **Winterisation C(t)**, which is associated with an operational scenario of short duration transits in low temperatures, e.g. ships loading/discharging in low temperatures then sailing to discharging/loading in warmer regions. More severe operational scenarios will require special consideration beyond the requirements of this sub-Section.

8.27.2 Irrespective of winterisation, for general worldwide service OPTS are to be designed to a minimum design temperature of −10°C or lower. Reference is made to *Ch 4, 2.25 Materials 2.25.3* of the *Code for Lifting Appliances in a Marine Environment*.

Existing paragraphs 8.26.2 to 8.26.6 have been renumbered 8.27.3 to 8.27.7.

~~8.26.6~~ 8.27.7 *See also Ch 1, 1.4 Definitions 1.4.7, Ch 1, 5.1 General 5.1.2* and *Ch 1, 5.11 Ice removal and prevention measures* (as applicable) of LR's *Rules for the Winterisation of Ships, July 2021* concerning ~~for a definition of~~ ice removal and prevention measures.

~~8.26.7~~ 8.27.8 Means are to be provided for habitable working conditions in ~~Operator~~ Control cabins, where fitted, by providing internal space heating arrangements. Cabin windows are to be provided with heating arrangements to protect from the build-up of ice, *see* ~~*Ch 1, 3.3 Equipment and components 3.3.1*~~ *Ch 1, 5.8 Winterisation of spaces/compartments 5.8.1* and *Ch 1, 5.8 Winterisation of spaces/compartments 5.8.3* of the *Rules for the Winterisation of Ships, July 2021*. Ice removal measures are to be provided to protect against icing. Window wiper operating devices are to be arranged inside the cabin or to be provided with heating arrangements.

Existing paragraphs 8.26.8 to 8.26.14 have been renumbered 8.27.9 to 8.27.15.

■ *Section 12*
Materials and fabrication

12.5 Minimum thickness

12.5.1 The minimum thicknesses are to be in compliance with *Table 1.12.1 Minimum material thickness*.

Table 1.12.1 Minimum material thickness

Type of structural member	Minimum thickness
Critical structure	6 mm *see* Note
Primary structure	4 mm
Secondary structure	4 mm
Note: Lower thicknesses will be specially considered if acceptable technical justification is provided and the proposed thickness is specifically addressed in the risk assessment, e.g. taking account of the robustness (structural member size related to thickness) of the structural design detail which is employing the lower thickness.	

■ *Section 13*
Testing, marking and surveys

13.1 Testing

13.1.6 An overview of the initial and periodical overload test loads is provided in *Table 1.13.1 Test loads – Overview*. The detailed requirements are provided in the following paragraphs of *Ch 1, 13.1 Testing*.

~~13.1.6~~ 13.1.7 For A-GU type systems (providing unrestricted access) the initial overload tests and subsequent periodical overload tests are to be carried out using the test loads as defined in the following:
(a) A-GU gangway integrity test

The test load shall be applied uniformly along the completely extended gangway with the test load per square metre defined as follows:

$TL_{\mathrm{A-GU.a}} = F_{\mathrm{T}}\ UDL_{\mathrm{P}}$

where

$TL_{\mathrm{A-GU.a}}$ = test load, in kg/m²

~~$F_{\mathrm{T}} = 1{,}25$ = test load factor~~

$F_{\mathrm{T}} = 1{,}5$ = test load factor

~~$UDL_{\mathrm{T}} = 410\ \mathrm{kg/m^2}$~~

$UDL_{\mathrm{P}} = 360\ \mathrm{kg/m^2}$

This integrity test is only required at the initial survey; the test may be carried out at the manufacturer's works and does not need to be repeated on board.

(b) A-GU system test

(i) For A-GU type systems which are not designed to carry personnel in the cantilevered position, the test load is to be applied uniformly along the completely extended gangway with the test load per square metre defined as follows:

~~$TL_{\mathrm{A-GU.b.i1}} = \frac{(F_{\mathrm{T}}-1)\ W_{\mathrm{gw}}}{L_{\mathrm{gw}} B_{\mathrm{gw}}}$~~

$TL_{\mathrm{A-GU.b.i1}} = \frac{(F_{\mathrm{T}}-1.25)\ W_{\mathrm{gw}}}{L_{\mathrm{gw}} B_{\mathrm{gw}}}$

where

$TL_{\mathrm{A-GU.b.i1}}$ = test load, in $\frac{\mathrm{kg}}{\mathrm{m^2}}$

$F_{\mathrm{T}} = 1{,}5$ = test load factor

$g = 9{,}81\ \frac{\mathrm{m}}{\mathrm{s^2}}$

W_{gw}= total dead load of the gangway, in kg

L_{gw}= length of gangway from heel to tip, in m

B_{gw}= effective width of gangway

(*see Ch 1, 1.10 Terms and definitions, 1.10.8* for a definition of the effective width), in m

Alternatively, the test load maybe applied at the gangway tip and is defined as follows:

~~$TL_{\mathrm{A-GU.b.i2}} = (F_{\mathrm{T}} - 1)\ W_{\mathrm{gw}} \frac{1}{2}$~~

$TL_{\mathrm{A-GU.b.i2}} = (F_{\mathrm{T}} - 1{,}25)\ W_{\mathrm{gw}} \frac{1}{2}$

where

$TL_{\mathrm{A-GU.b.i2}}$ = alternative test load, in kg

The designer/manufacturer needs to evaluate whether it can be ensured that the gangway cannot be used in the cantilevered position. If this cannot be ensured the system needs to be designed and tested as a cantilevered system as defined in *Ch 1, 13.1 Testing, 13.1.7.(b).(ii)*.

(ii) For A-GU type systems which are designed to carry personnel in the cantilevered position, the test loads are to be applied at the gangway tip and are defined as follows:

~~$TL_{\mathrm{A-GU.b.ii1}} = W_{\mathrm{gw}} \left(\frac{F_{\mathrm{T}}-1}{2}\right) + F_{\mathrm{T}}\ UDL_{\mathrm{P}}\ L_{\mathrm{gw}}\ B_{\mathrm{gw}}\ \frac{1}{2}$~~

$TL_{\mathrm{A-GU.b.ii1}} = W_{\mathrm{gw}} \left(\frac{F_{\mathrm{T}}-1{,}25}{2}\right) + F_{\mathrm{T}}\ UDL_{\mathrm{P}}\ L_{\mathrm{gw}}\ B_{\mathrm{gw}}\ \frac{1}{2}$

where

$TL_{\mathrm{A-GU.b.ii1}}$ = test load, in kg

Alternatively, the test loads maybe applied uniformly along the completely extended gangway with the test load per square metre defined as follows:

~~$TL_{\mathrm{A-GU.b.ii2}} = \frac{(F_{\mathrm{T}}-1)\ W_{\mathrm{gw}}}{L_{\mathrm{gw}} B_{\mathrm{gw}}} + F_{\mathrm{T}}\ UDL_{\mathrm{P}}$~~

$TL_{\mathrm{A-GU.b.ii2}} = \frac{(F_{\mathrm{T}}-1{,}25)\ W_{\mathrm{gw}}}{L_{\mathrm{gw}} B_{\mathrm{gw}}} + F_{\mathrm{T}}\ UDL_{\mathrm{P}}$

where

$TL_{\mathrm{A-GU.b.ii2}}$ = alternative test load, in $\frac{\mathrm{kg}}{\mathrm{m^2}}$

If the test load $TL_{\mathrm{A-GU.b.ii2}}$ is chosen to be applied along the completely extended gangway, the test as defined in *Ch 1, 13.1 Testing, 13.1.7.(a)* may be omitted.

The gangway shall be in the cantilevered position in both cases (i) and (ii) during the overload test.

Existing paragraphs 13.1.7 to 13.1.20 have been renumbered 13.1.8 to 13.1.21.

Table 1.13.1 Test loads – Overview

Type of load test	OPTS designed to carry personnel in cantilevered position	A-GU (Access - Gangway Unrestricted) *see* Note 1	A-GR (Access - Gangway Restricted) *see* Note 1
Gangway integrity test (A-GU only)	---	$TL_{\text{A-GU.a}} = F_T UDL_P$ *see* Note 2	---
OPTS test	No	$TL_{\text{A-GU.b.i1}} = \frac{(F_T - 1{,}25)\, W_{gw}}{L_{gw} B_{gw}}$ *see* Note 2 or $TL_{\text{A-GU.b.i2}} = (F_T - 1{,}25)\, W_{gw} \frac{1}{2}$ *see* Note 3	---
	Yes	$TL_{\text{A-GU.b.ii1}} = W_{gw}\left(\frac{F_T - 1{,}25}{2}\right) + F_T\, UDL_P\, L_{gw}\, B_{gw}\, \frac{1}{2}$ *see* Note 4 or $TL_{\text{A-GU.b.ii2}} = \frac{(F_T - 1{,}25) W_{gw}}{L_{gw}\, B_{gw}} + F_T\, UDL_P$ *see* Note 5	$TL_{\text{A-GR}} = W_{gw}\left(\frac{F_T - 1}{2}\right) + F_T \max\left[\frac{SWL_P + SWL_{CG}}{120\text{kg}}\right]$ *see* Note 4

Note 1:
Test load factor: F_T = 1,25 for A-GR systems and F_T = 1,5 for A-GU systems
Uniformly Distributed Load – Personnel: UDL_P = 360 kg/m^2
Total dead load of the gangway, in kg: W_{gw}
Length of gangway from heel to tip, in m: L_{gw}
Effective width of gangway, in m: B_{gw}:
Safe Working Load – Personnel, in kg: SWL_P
Safe Working Load – Cargo on Gangway, in kg: SWL_{CG}:
Note 2: The test load shall be applied uniformly along the completely extended gangway.
Note 3: Alternatively, the test load may be applied at the gangway tip.
Note 4: The test load shall be applied at the gangway tip.
Note 5: Alternatively, the test load may be applied uniformly along the completely extended gangway.

Existing Table 1.13.1 has been renumbered to 1.13.2.

Chapter 2
Annex Recommendations for Safe Operation of the OPTS

■ *Section 3*
Operational aspects

3.1 Transfer operations

3.1.1 The transfer or handling of personnel and the handling of cargo should not be conducted simultaneously. An exception to this is the use of cargo baskets or trolleys during transfer of personnel operations via the gangway. The cargo baskets or trolleys should be secured against uncontrolled movements on the gangway and elsewhere on the OPTS as applicable.

3.1.2 Dropped or moving objects posing a hazard to the transferring personnel, the Operator and any part of the OPTS shall be considered during the operation of the OPTS. If cargo operations close to the OPTS or suspended loads being moved over the OPTS cannot be avoided, it shall be ensured that personnel transfer operations are not conducted, and personnel are not on or near the OPTS at those times of operation.

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